Missouri Department of Natural Resources
Grand River - WBID 0430
Fish Community Monitoring by University of Missouri 1999

Org	Stream	WBID	No. of Fish Species Channelized	Unchannelized
UMC*	Grand R.- Gentry Co.	430	34	52
UMC	Grand R. -Chariton Co.	593	29	49
UMC	Mussel Fork-Macon Co.	674	31	54
UMC	N. Fork Salt R.- Shelby Co.	110	29	61
UMC	Locust Cr.-Sullivan/Putnam Co.	606	35	60
UMC	North Fabius R.-Lewis/Scotland Co.	56	33	65
UMC	South Fabius R.- Marion/Knox Co.	71	27	48
UMC	Mean		31.1	55.6

Data Analysis for Pooled Data for all Seven Streams.

The department tested a single factor analysis of variance or ANOVA comparing the numbers of species between channelized and unchannelized streams at a significance level of 0.10. The differences were found to be highly significant, with the calculated "F" value being 81.75, which was far greater than the tabular F value of 3.18. Thus the null hypothesis- "no difference in number of species in channnelized vs unchannelized streams" is rejected. The probability that the observed differences were due to chance were less than 0.000001.

Data Analy	for Upper Grand River		Mean	F Value	Prob. >F	Tab. F
Channelized Section		13,14	13.5	9	0.058	5.54
Unchannelized Section		15,16,17	16			

For upper Grand River, a single ANOVA analyzing the difference in numbers of species between two channelized areas of the stream and three unchannelized areas gave a calculated "F" value greater than the tabular "F" for a test significance level of 0.1. Thus, we reject the null hypothesis of no difference in the number of fish species in the channelized and unchannelized portions of upper Grand River. A 7.3 mile channelized segment of this stream in Gentry County is judged to be **impaired** based on this fish community monitoring.

* "Recovery of Prairie Fish Assemblages at the Transition from Channelized to Unchannelized: Implications for Conservation in Natural Channels". 2000. Vokoun, J.C. and C.F. Rabeni, Missouri Cooperative Fish and Wildlife Research Unit, Univ. of Missouri. Columbmbia, MO. 65211-7240.

Missouri Department of Natural Resources, Water Protection Program, www.dnr.mo.gov, (573) 751-1300
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